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PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number (Optional)	
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]		2003P11789US	
on <u>6/23/07</u>	Application Number 10/726,449	Filed 12/02/03	
Signature <u>[Signature]</u>	First Named Inventor Hristov, et al.		
Typed or printed name Raquel West	Art Unit 2884	Examiner Shun Lee	
Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.			
This request is being filed with a notice of appeal.			
The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.			
I am the			
<input type="checkbox"/> applicant/inventor.			
<input type="checkbox"/> assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/98)			
<input checked="" type="checkbox"/> attorney or agent of record. 44,190			
Registration number			
<input type="checkbox"/> attorney or agent acting under 37 CFR 1.34.			
Registration number if acting under 37 CFR 1.34			
Signature <u>[Signature]</u>			
Jenny G. Ko			
Typed or printed name			
650-694-5810			
Telephone number			
8/23/07			
Date			
NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.			
<input checked="" type="checkbox"/> Total of <u>1</u> forms are submitted.			

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**Fax Number:** 571-273-8300**No. of Pages:** 13**By:** Raquel C. West**Date** 08/23/07**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants: HRISTOV et al.	) Confirmation No. 6754
	)
Application No.: 10/726,449	) Group Art Unit: 2884
	)
Filing Date: December 2, 2003	) Examiner: Shun K. Lee
	)
For: VARIABLE GAIN IMAGING	) REASONS in Support of Pre-Appeal Request
	) for Review
	)
	) Attorney Docket No.: 2003P11789US
	)
	)

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Sir:

Applicants hereby submit reasons in support of the Pre-Appeal Brief Request for Review filed herewith.

Reasons begin on page 2 of this paper.

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U.S. Application No. 10/726,449  
Reasons in Support of Pre-Appeal Brief Request for Review**REASONS**

Applicants submit the following reasons as evidence of clear error in the outstanding final rejection of independent Claims 10, 20 and 23. No new matter has been added. Reconsideration and further examination are respectfully requested.

**Oath/Declaration**

Regarding an administrative matter, Applicants submit herewith a Supplemental Application Data Sheet to specify address information that was omitted from the originally-filed Declaration. The address information is denoted by underlining as required by 37 CFR §1.76(b).

**Claim Rejections**

Claims 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,616,924 (Petrillo) in view of U.S. Patent No. 4,205,231 (Pochwalski); and claims 20, 22-23, 25, and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,616,924 (Petrillo) in view of U.S. Patent No. 4,205,231 (Pochwalski) and U.S. Patent No. 5,003,572 (Meccariello et al.). Reconsideration and withdrawal of the rejections are respectfully requested.

Independent claim 10 recites an apparatus comprising: a scintillator to emit light; imaging elements to capture image information based on received light; a first optical filter controllably movable from a first position between the scintillator and the imaging elements to a second position not between the scintillator and the imaging elements; and a second optical filter controllably movable from a third position between the scintillator and the imaging elements to a fourth position not between the scintillator and the imaging elements. Neither Petrillo, nor Pochwalski, nor any proper combination thereof proposed in the Office Action, teaches or suggests the apparatus of claim 10.

Petrillo discloses radiation detectors (12a, 12b and 12c) each including a scintillation crystal 22 (col. 3, line 39-40). The scintillation crystal 22 converts the radiation received by the detector into light photons 26 (col. 3, lines 42-43). An optically transmissive plate 28 optically couples the scintillation crystal to an array of photo multiplier tubes 30 (col. 3, lines 44-47). A liquid crystal layer 54 may be laminated to the exit surface of the scintillation crystal 22 between the scintillation crystal 22 and the glass plate 28 (col. 5, lines 5-11). Dynamically adjusting the

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dispersion properties of the liquid crystal controls the photon output of the scintillation crystal (col. 5, lines 8-10).

With reference to FIG. 6, in yet another embodiment, a liquid crystal layer 54 is associated with the scintillation crystal 22 at the top and the side edges of the scintillation crystal (col. 5, lines 20-23). Coupling a liquid crystal layer 54 to the top and side edges of the scintillation crystal 22 provides for XTAL boundary control (col. 5, lines 23-25). Only one layer 54 is shown disposed between crystal 22 and photo multiplier tubes 30. Moreover, none of the liquid crystals 54 is described as being controllably movable from a position between the scintillator and imaging elements to a position not between the scintillator and the imaging elements.

Pochwalski describes vial 2 from which light may be emitted. The light emitted may be captured and amplified by photo multiplier tubes 3. Spring 6 surrounds vial 2, and bush 4 may be rotated to control a density of the turns of spring 6 surrounding vial 2. The turns of spring 6 surrounding vial 2 block the transmission of light from vial 2 by various degrees that depend on the density of the turns. The spring turns may be fully withdrawn from the counting chamber, thus reducing the initial light attenuation caused by the spring to a practically negligible value (col. 2, lines 19-22).

The rejection states that Pochwalski teaches that an adjustable light flux attenuator (e.g., spring 6 controlled by a transmission) may be fully withdrawn, thus reducing the initial light attenuation caused by the light flux attenuator. The rejection further states that it would have been obvious to provide a plurality of optical filters which can be moved by a control in the apparatus of Petrillo, in order to obtain light attenuation that can be adjusted in fine increments from a practically negligible value (i.e., when all the optical filters are not between the scintillator and the imaging elements) to total attenuation (i.e., when all the optical filters are between the scintillator and the imaging elements).

Applicants respectfully disagree.

Specifically, the rejection proposes modifying the system illustrated in FIG. 6 of Petrillo with the description of Pochwalski. However, even if the FIG. 6 system was modified such that the liquid crystals 54 at the top, the bottom, and/or the side edges of the scintillation crystal 22 were movable in a manner similar to the spring 6 in the device of Pochwalski, only one of such liquid crystals 54 (i.e., the liquid crystal 54 (FIG. 6) shown between the scintillation crystal

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22 and photo multiplier tubes 30) would be movable from a position between the scintillation crystal 22 and the photo multiplier tubes 30 to a position not between the scintillation crystal 22 and the photo multiplier tubes 30.

To the extent that the Office Action proposes otherwise, such proposed combination and/or modification is improper. For example, although Petrillo shows a liquid crystal 54 (FIG. 6) at a position between the scintillation crystal 22 and photo multiplier tubes 30, neither Petrillo nor Pochwalski teach or suggest a second liquid crystal 54 at a position between the scintillation crystal 22 and photo multiplier tubes 30.

Consequently, even if the scintillation crystal 22 constitutes a scintillator, as asserted in the Office Action, and even if each liquid crystal 54 (FIG. 6) constitutes an optical filter, as asserted in the Office Action, the modified system would still not include: a first optical filter controllably movable from a first position between the scintillator and imaging elements to a second position not between the scintillator and the imaging elements; and a second optical filter controllably movable from a third position between the scintillator and the imaging elements to a fourth position not between the scintillator and the imaging elements, as recited in independent claim 10. Independent claim 10 and the claims depending therefrom are believed to be allowable.

Independent claim 20 recites a method comprising: determining a radiation dose to be received by a scintillator; determining an expected amount of light to be emitted from the scintillator based at least on the determined radiation dose; and controlling a first optical filter and a second optical filter based at least on the expected amount of light, wherein the first optical filter is movable from a first position between the scintillator and imaging elements to a second position not between the scintillator and the imaging elements, and wherein the second optical filter is movable from a third position between the scintillator and the imaging elements to a fourth position not between the scintillator and the imaging elements.

As stated above, even if the system of Petrillo was modified such that the liquid crystals 54 (FIG. 6) at the top, the bottom, and/or the side edges of the scintillation crystal 22 were movable in a manner similar to the spring 6 in the device of Pochwalski, only one of such liquid crystals 54 (i.e., the liquid crystal 54 (FIG. 6) shown between the scintillation crystal 22 and photo multiplier tubes 30) would be movable from a position between the scintillation crystal

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22 and the photo multiplier tubes 30 to a position not between the scintillation crystal 22 and the photo multiplier tubes 30. Independent claim 20 and the claims depending therefrom should therefore be allowed.

Independent claim 23 recites a computer-readable medium storing processor-executable process steps, the process steps comprising: a step to determine a radiation dose to be received by a scintillator; a step to determine an expected amount of light to be emitted from the scintillator based at least on the determined radiation dose; and a step to control a first optical filter and a second optical filter based at least on the expected amount of light, wherein the first optical filter is movable from a first position between the scintillator and imaging elements to a second position not between the scintillator and the imaging elements, and wherein the second optical filter is movable from a third position between the scintillator and the imaging elements to a fourth position not between the scintillator and the imaging elements.

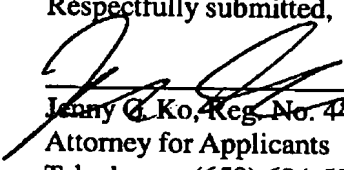
As stated above, even if the system of Petrillo was modified such that the liquid crystals 54 at the top, the bottom, and/or the side edges of the scintillation crystal 22 were movable, in a manner similar to the spring 6 in the device of Pochwalski, only one of such liquid crystals 54 (i.e., the liquid crystal 54 (FIG. 6) shown between the scintillation crystal 22 and photo multiplier tubes 30) would be movable from a position between the scintillation crystal 22 and the photo multiplier tubes 30 to a position not between the scintillation crystal 22 and the photo multiplier tubes 30. Independent claim 23 and the claims depending therefrom should therefore be allowed.

Accordingly, Applicants respectfully request allowance of the pending claims. If any issues remain, or if the Examiner has any further suggestions for expediting allowance of the present application, the Examiner is kindly invited to contact the undersigned via telephone at (650) 694-5810.

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Respectfully submitted,

  
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